WHAT IS CLAIMED:

1. Apparatus for extracting biomass comprising a closed loop circuit including, operatively connected in series, an extraction vessel, for containing biomass, that permits the solvent or a solvent mixture to contact biomass to effect extraction;

an evaporator for separating solvent and biomass extract from one another;

a condenser for condensing solvent evaporated in the condenser; and

a means for moving liquid solvent from the condenser to the extraction vessel and to the evaporator, without compressing a vapour phase.

2. Apparatus according to Claim 1 wherein the extraction vessel, evaporator and condenser are discrete components operatively interconnected by a pipework circuit.

3. Apparatus according to Claim 1 wherein the evaporator and condenser are constituted as parts of the same evaporator/condenser vessel, and the extraction vessel is a discrete component operatively connected to the evaporator/condenser vessel by a pipework circuit.

4. Apparatus according to Claim 3 wherein the evaporator/condenser vessel is a generally closed, hollow vessel having lower and upper interior zones spaced from one another, the lower zone including the evaporator and the upper zone including the condenser.

5. Apparatus according to Claim 4 wherein the lower zone includes a feed thereinto for liquid solvent/extract mixture; a heat source for heating the liquid solvent/extract mixture to evaporate the solvent from the extract; and a drain for draining liquid extract out of the condenser/evaporator vessel.

6. Apparatus according to Claim 5 wherein the heat source is or includes a heating jacket or a member secured onto or surrounding a portion of the exterior of the condenser/evaporator

vessel adjacent or corresponding to the lower zone.

7. Apparatus according to Claim 4, wherein the upper zone includes a cooler that cools one or more surfaces in the upper zone; a receptacle lower than the surface and located to catch liquid solvent, condensed onto the surface, that falls from the surface under gravity; and a drain for draining liquid solvent from the receptacle.

8. Apparatus according to Claim 7 wherein the cooler includes a jacket or member secured onto or surrounding a portion of the exterior of the vessel adjacent or corresponding to the upper zone, an interior wall of the upper zone, cooled by the cooling jacket or member, being or including the said surface and the receptacle including a tray protruding from the said wall inside the vessel.

9. Apparatus according to Claim 8 wherein the upper zone is of cylindrical cross-section and the tray is an annulus protruding from and extending about the interior wall of the upper zone.

10. Apparatus according to Claim 7 wherein the cooler includes a cooling member within the upper zone; the cooling member including the said surface; and the receptacle underlying the cooling member.

11. Apparatus according to Claim 7 wherein the cooling jacket or member includes one or more internal passages permitting the flow therethrough of a cooling fluid.

12. Apparatus according to Claim 7 wherein the drain passes through a wall of the evaporator/condenser vessel and wherein the closed loop circuit includes the lower zone, the upper zone and the drain, operatively connected in series.

13. Apparatus according to Claim 4 wherein the lower and upper zones are spaced from one another by a gas permeable, generally liquid impermeable barrier.

14. Apparatus according to Claim 5 wherein the heat source is or includes a heating member within the condenser/evaporator vessel.

15. Apparatus according to Claim 3, including a direct heat pump for evaporating and condensing the solvent.

16. Apparatus according to Claim 1 wherein the means for moving liquid solvent from the condenser to the extraction vessel includes a liquid pump operatively connected in series in the closed loop circuit between the condenser and the extraction vessel.

17. Apparatus according to Claim 1 wherein the condenser is at a greater altitude than the extraction vessel and the evaporator, whereby the means for moving liquid solvent between the condenser and the extraction vessel includes the hydrostatic head between the condenser and the extraction vessel.

18. Apparatus according to Claim 17 wherein the outlet of the condenser includes a liquid lute operatively connected in series therewith.

19. A method of extracting biomass comprising the steps of :

loading a bed of biomass into an extraction vessel having an inlet and an outlet and forming part of a closed loop circuit including, operatively connected in series, the extraction vessel, an evaporator and a condenser;

contacting the biomass with a solvent flowing around the closed loop, whereby biomass extract becomes entrained with the solvent;

moving the solvent around the closed loop to the evaporator and evaporating the solvent to separate the solvent and the extract from one another;

moving the vaporised solvent around the closed loop to the condenser and condensing

it to liquid form; and

moving the condensed solvent around the closed loop to the extraction vessel for further contact with biomass therein, wherein the solvent in vapour form is generally uncompressed

20. A method according to Claim 19 including the step of allowing the condensed, liquid solvent to move under gravity between the condenser and the extraction vessel.

21. A method according to Claim 19 wherein the steps of evaporating and condensing the solvent take place within the same hollow vessel.

22. A method according to Claim 21 including the step of operating a direct heat pump to effect the said evaporating and condensing.

23. A method according to Claim 19 including the step of packing the biomass in the extraction vessel.

24. A method according to Claim 19 including the step of removing biomass extract from the evaporator.